

M1 Consensus

Domain	# runs	Description
GH5	17	chitosanase (EC 3.2.1.132); beta-mannosidase (EC 3.2.1.25); Cellulase (EC 3.2.1.4); glucan 1,3-beta-glucosidase (EC 3.2.1.58); licheninase (EC 3.2.1.73); glucan endo-1,6-beta-glucosidase (EC 3.2.1.75); mannan endo-beta-1,4-mannosidase (EC 3.2.1.78); endo-beta-1,4-xylanase (EC 3.2.1.8); cellulose beta-1,4-celllobiosidase (EC 3.2.1.91); beta-1,3-mannanase (EC 3.2.1.-); xyloglucan-specific endo-beta-1,4-glucanase (EC 3.2.1.151); mannan transglycosylase (EC 2.4.1.-); endo-beta-1,6-galactanase (EC 3.2.1.164)
PF00150	18	Cellulase (glycosyl hydrolase family 5)
GH9	18	endoglucanase (EC 3.2.1.4); cellobiohydrolase (EC 3.2.1.91); beta-glucosidase (EC 3.2.1.21); exo-beta-glucosaminidase (EC 3.2.1.165)
PF00759	17	Glycosyl hydrolase family 9
GH10	17	endo-1,4-beta-xylanase (EC 3.2.1.8); endo-1,3-beta-xylanase (EC 3.2.1.32)
PF00331	17	Glycosyl hydrolase family 10
GH26	17	beta-mannanase (EC 3.2.1.78); beta-1,3-xylanase (EC 3.2.1.32)
PF02156	17	Glycosyl hydrolase family 26
GH43	18	beta-xylosidase (EC 3.2.1.37); beta-1,3-xylosidase (EC 3.2.1.-); alpha-L-arabinofuranosidase (EC 3.2.1.55); arabinanase (EC 3.2.1.99); xylanase (EC 3.2.1.8); galactan 1,3-beta-galactosidase (EC 3.2.1.145)
PF04616	17	Glycosyl hydrolases family 43
CBM4	16	Modules of approx. 150 residues found in bacterial enzymes. Binding of these modules has been demonstrated with xylan, beta-1,3-glucan, beta-1,3-1,4-glucan, beta-1,6-glucan and amorphous cellulose but not with crystalline cellulose.
PF02018	17	Carbohydrate binding domain (CBM_4_9)
CBM6	18	Modules of approx. 120 residues. The cellulose-binding function has been demonstrated in one case on amorphous cellulose and beta-1,4-xylan. Some of these modules also bind beta-1,3-glucan, beta-1,3-1,4-glucan, and beta-1,4-glucan.
PF03422	18	Carbohydrate binding module (family 6)
PF02927	17	N-terminal Ig-like domain of cellulase
CBM35	17	Modules of approx. 130 residues. A module that is conserved in three <i>Cellvibrio</i> xylan-degrading enzymes binds to xylan and the interaction is calcium dependent, while a module from a <i>Cellvibrio</i> mannanase binds to decorated soluble mannans and mannooligosaccharides. A module in a
PF00756	13	Putative esterase
PF13472	10	GDSL-like Lipase/Acylhydrolase family

M1 Histogram

Domain	Description	# runs
PF00150	Cellulase (glycosyl hydrolase family 5)	18
GH43	beta-xylosidase (EC 3.2.1.37); beta-1,3-xylosidase (EC 3.2.1.-); alpha-L-arabin [...]	18
CBM6	Modules of approx. 120 residues. The cellulose-binding function has been demons [...]	18
GH9	endoglucanase (EC 3.2.1.4); cellobiohydrolase (EC 3.2.1.91); beta-glucosidase ([...]	18
PF03422	Carbohydrate binding module (family 6)	18
GH5	chitosanase (EC 3.2.1.132); beta-mannosidase (EC 3.2.1.25); Cellulase (EC 3.2.1 [...]	17
PF02927	N-terminal ig-like domain of cellulase	17
GH10	endo-1,4-beta-xylanase (EC 3.2.1.8); endo-1,3-beta-xylanase (EC 3.2.1.32)	17
PF00759	Glycosyl hydrolase family 9	17
PF00331	Glycosyl hydrolase family 10	17
PF04616	Glycosyl hydrolases family 43	17
GH26	beta-mannanase (EC 3.2.1.78); beta-1,3-xylanase (EC 3.2.1.32)	17
CBM35	Modules of approx. 130 residues. A module that is conserved in three Cellvibrio [...]	17
PF02018	Carbohydrate binding domain (CBM_4_9)	17
PF02156	Glycosyl hydrolase family 26	17
CBM4	Modules of approx. 150 residues found in bacterial enzymes. Binding of these mo [...]	16
PF00756	Putative esterase	13
PF13472	GDSL-like Lipase/Acylhydrolase family	10
PF00657	GDSL-like Lipase/Acylhydrolase	7
PF00165	Bacterial regulatory helix-turn-helix proteins, AraC family	7
GH94	cellobiose phosphorylase (EC 2.4.1.20); celodextrin phosphorylase (EC 2.4.1.4 [...]	7
PF06205	Glycosyltransferase 36 associated family	5
PF06165	Glycosyltransferase family 36 (Deleted: now family GH94)	5
GH117	alpha-1,3-L-neoagarooligosaccharide hydrolase (EC 3.2.1.-); alpha-1,3-L-neoagar [...]	5
CBM22	A xylan binding function has been demonstrated in several cases and affinity wi [...]	4
GH16	xyloglucan:xyloglucosyltransferase (EC 2.4.1.207); keratan-sulfate endo-1,4-bet [...]	4
PF06204	Putative carbohydrate binding domain	4
PF01882	Protein of unknown function DUF58	4
GH30	glucosylceramidase (EC 3.2.1.45); beta-1,6-glucanase (EC 3.2.1.75); beta-xylosi [...]	4
PF12833	Helix-turn-helix domain	4
CE3	acetyl xylan esterase (EC 3.1.1.72).	4
PF00722	Glycosyl hydrolases family 16	4
PF06964	Alpha-L-arabinofuranosidase C-terminus	3
GH51	alpha-L-arabinofuranosidase (EC 3.2.1.55); endoglucanase (EC 3.2.1.4)	3
GH8	chitosanase (EC 3.2.1.132); cellulase (EC 3.2.1.4); licheninase (EC 3.2.1.73); [...]	3
GH67	alpha-glucuronidase (EC 3.2.1.139); xylan alpha-1,2-glucuronidase (EC 3.2.1.131)	3
CBM36	Modules of approx. 120-130 residues displaying structural similarities to CBM6 [...]	3
PF01270	Glycosyl hydrolases family 8	3
PF00933	Glycosyl hydrolase family 3 N terminal domain	3
PF08757	CotH protein	2
PF07726	ATPase family associated with various cellular activities (AAA)	2
PF00942	Cellulose binding domain	2
PF13385	Concanavalin A-like lectin/glucanases superfamily	2
GH95	alpha-1,2-L-fucosidase (EC 3.2.1.63); alpha-L-fucosidase (EC 3.2.1.51)	2
GH3	beta-glucosidase (EC 3.2.1.21); xylan 1,4-beta-xylosidase (EC 3.2.1.37); beta-N [...]	2
PF00553	Cellulose binding domain	2
CBM3	Modules of approx. 150 residues found in bacterial enzymes. The cellulose-bindi [...]	2

GH39	alpha-L-iduronidase (EC 3.2.1.76); beta-xylosidase (EC 3.2.1.37).	2
PF01915	Glycosyl hydrolase family 3 C-terminal domain	2
PF07477	Glycosyl hydrolase family 67 C-terminus	2
PF07488	Glycosyl hydrolase family 67 middle domain	2
GH2	beta-galactosidase (EC 3.2.1.23) ; beta-mannosidase (EC 3.2.1.25); beta-glucuro [...]	2
PL1	pectate lyase (EC 4.2.2.2); exo-pectate lyase (EC 4.2.2.9); pectin lyase (EC 4. [...]	2
CBM2	Modules of approx. 100 residues and which are found in a large number of bacter [...]	2
PF02837	Glycosyl hydrolases family 2, sugar binding domain	2
CE2	acetyl xylan esterase (EC 3.1.1.72).	2
PF01055	Glycosyl hydrolases family 31	1
GH124	endoglucanase (EC 3.2.1.4)	1
PF13377	Periplasmic binding protein-like domain	1
GH36	alpha-galactosidase (EC 3.2.1.22); alpha-N-acetylgalactosaminidase (EC 3.2.1.49 [...]	1
PF07745	Glycosyl hydrolase family 53	1
PF00703	Glycosyl hydrolases family 2	1
dockerin		1
PF13407	Periplasmic binding protein domain	1
GH53	endo-beta-1,4-galactanase (EC 3.2.1.89).	1
PF01243	Pyridoxamine 5'-phosphate oxidase	1
PF01841	Transglutaminase-like superfamily	1
GH31	alpha-glucosidase (EC 3.2.1.20); alpha-1,3-glucosidase (EC 3.2.1.84); sucrase-i [...]	1
GH32	invertase (EC 3.2.1.26); endo-inulinase (EC 3.2.1.7); beta-2,6-fructan 6-levanb [...]	1
PF07691	PA14 domain	1
PF00544	Pectate lyase	1
PF02836	Glycosyl hydrolases family 2, TIM barrel domain	1
PF00457	Glycosyl hydrolases family 11	1
PF14310	Fibronectin type III-like domain	1
PF00404	Dockerin type I repeat	1
GH11	xylanase (EC 3.2.1.8)	1
PF00532	Periplasmic binding proteins and sugar binding domain of LacI family	1

M2 Consensus

Domain	# runs	Description
GH16	16	xyloglucan:xyloglucosyltransferase (EC 2.4.1.207); keratan-sulfate endo-1,4-beta-galactosidase (EC 3.2.1.103); endo-1,3-beta-glucanase (EC 3.2.1.39); endo-1,3(4)-beta-glucanase (EC 3.2.1.6); licheninase (EC 3.2.1.73); betaagarase (EC 3.2.1.81); kappa-carrageenase (EC 3.2.1.83); xyloglucanase (EC 3.2.1.151)
PF00722	17	Glycosyl hydrolases family 16
GH30	10	glucosylceramidase (EC 3.2.1.45); beta-1,6-glucanase (EC 3.2.1.75); beta-xylosidase (EC 3.2.1.37); beta-fucosidase (EC 3.2.1.38); beta-glucosidase (3.2.1.21); endo-beta-1,6-galactanase (EC:3.2.1.164)
CBM6	18	Modules of approx. 120 residues. The cellulose-binding function has been demonstrated in one case on amorphous cellulose and beta-1,4-xylan. Some of these modules also bind beta-1,3-glucan, beta-1,3-1,4-glucan, and beta-1,4-glucan.
PF03422	18	Carbohydrate binding module (family 6)
CBM16	16	Carbohydrate-binding module 16. Binding to cellulose and glucomannan demonstrated [B. Bae et al (2008) J Biol Chem. 283:12415-25 (PMID: 18025086)]
CBM35	18	Modules of approx. 130 residues. A module that is conserved in three Cellvibrio xylan-degrading enzymes binds to xylan and the interaction is calcium dependent, while a module from a Cellvibrio mannanase binds to decorated soluble mannans and mannooligosaccharides. A module in a
CBM61	17	Modules of approx. 150 residues found appended to GH16, GH30, GH31, GH43, GH53 and GH66 catalytic domains. A beta-1,4-galactan binding function has been demonstrated for the CBM60 of Thermotoga maritima GH53 galactanase [PMID: 20826814].
CBM47	17	Modules of approx 150 residues. Fucose-binding activity demonstrated
CBM32	17	Binding to galactose and lactose has been demonstrated for the module of Micromonospora viridifaciens sialidase (PMID: 16239725). Binding to polygalacturonic acid has been shown for a Yersinia member (PMID: 17292916). Binding to LacNAc (beta-D-galactosyl-1,4-beta-D-N-acetylglucosamine) has been shown for an N-acetylglucosaminidase from Clostridium perfringens (PMID: 16990278). (Distantly related to CBM6 modules and to Anguilla anguilla agglutinin.)
CBM13	11	Modules of approx. 150 residues which always appear as a threefold internal repeat. The only apparent exception to this, xylanase II of Actinomadura sp. FC7 (GenBank U08894), is in fact not completely sequenced. These modules were first identified in several plant lectins such as ricin or agglutinin of Ricinus communis which bind galactose residues. The three-dimensional structure of a plant lectin has been determined and displays a pseudo-threefold symmetry in accord with the observed sequence threefold repeat. These modules have since been found in a number of other proteins of various functions including glycoside hydrolases and glycosyltransferases. While in the plant lectins this module binds mannose, binding to xylan has been demonstrated in the Streptomyces lividans xylanase A and arabinofuranosidase B. Binding to GalNAc has been shown for the corresponding module of GalNAc transferase 4. For the other proteins, the binding specificity of these modules has not been established. The pseudo three-fold symmetry of the CBM13 module has now been confirmed in the 3-D structure of the intact, two-domain, xylanase of Streptomyces olivaceoviridis.
PF14200	11	Ricin-type beta-trefoil lectin domain-like
PF00652	11	Ricin-type beta-trefoil lectin domain
GH87	17	mycodextranase (EC 3.2.1.61); alpha-1,3-glucanase (EC 3.2.1.59)
PF00754	17	F5/8 type C domain
PF00041	17	Fibronectin type III domain
GH119	17	alpha-amylase (EC 3.2.1.1) (Distantly related to family GH57)

PF12708	14	Pectate lyase superfamily protein
PF02311	13	AraC-like ligand binding domain
PF02018	13	Carbohydrate binding domain (CBM_4_9)
GH55	12	exo-beta-1,3-glucanase (EC 3.2.1.58); endo-beta-1,3-glucanase (EC 3.2.1.39).
PF13483	9	Beta-lactamase superfamily domain

M2 Histogram

Domain	Description	# runs
CBM6	Modules of approx. 120 residues. The cellulose-binding function has been demons [...]	18
PF03422	Carbohydrate binding module (family 6)	18
CBM35	Modules of approx. 130 residues. A module that is conserved in three Cellvibrio [...]	18
PF00754	F5/8 type C domain	17
CBM47	Modules of approx 150 residues. Fucose-binding activity demonstrated	17
CBM32	Binding to galactose and lactose has been demonstrated for the module of Microm [...]	17
GH87	mycodextranase (EC 3.2.1.61); alpha-1,3-glucanase (EC 3.2.1.59)	17
PF00041	Fibronectin type III domain	17
PF00722	Glycosyl hydrolases family 16	17
GH119	alpha-amylase (EC 3.2.1.1) (Distantly related to family GH57)	17
CBM61	Modules of approx. 150 residues found appended to GH16, GH30, GH31, GH43, GH53 [...]	17
GH16	xyloglucan:xyloglucosyltransferase (EC 2.4.1.207); keratan-sulfate endo-1,4-beta [...]	16
CBM16	Carbohydrate-binding module 16. Binding to cellulose and glucomannan demonstrat [...]	16
PF12708	Pectate lyase superfamily protein	14
PF02311	AraC-like ligand binding domain	13
PF02018	Carbohydrate binding domain (CBM_4_9)	13
GH55	exo-beta-1,3-glucanase (EC 3.2.1.58); endo-beta-1,3-glucanase (EC 3.2.1.39).	12
PF14200	Ricin-type beta-trefoil lectin domain-like	11
CBM13	Modules of approx. 150 residues which always appear as a threefold internal rep [...]	11
PF00652	Ricin-type beta-trefoil lectin domain	11
GH30	glucosylceramidase (EC 3.2.1.45); beta-1,6-glucanase (EC 3.2.1.75); beta-xylosi [...]	10
PF13483	Beta-lactamase superfamily domain	9
GH18	chitinase (EC 3.2.1.14); endo-beta-N-acetylglucosaminidase (EC 3.2.1.96); xylan [...]	8
PF00704	Glycosyl hydrolases family 18	8
GH109	alpha-N-acetylgalactosaminidase (EC 3.2.1.49)	6
PF02894	Oxidoreductase family, C-terminal alpha/beta domain	6
PF13385	Concanavalin A-like lectin/glucanases superfamily	6
PF13229	Right handed beta helix region	6
PF02055	O-Glycosyl hydrolase family 30	5
PF06271	RDD family	5
PF13527	Acetyltransferase (GNAT) domain	4
PF00801	PKD domain	3
PF00553	Cellulose binding domain	3
PF05721	Phytanoyl-CoA dioxygenase (PhyH)	3
CBM2	Modules of approx. 100 residues and which are found in a large number of bacter [...]	3
CBM4	Modules of approx. 150 residues found in bacterial enzymes. Binding of these mo [...]	3
GH5	chitosanase (EC 3.2.1.132); beta-mannosidase (EC 3.2.1.25); Cellulase (EC 3.2.1 [...]	2
PF01638	HxLR-like helix-turn-helix	2
PF13463	Winged helix DNA-binding domain	2
GH3	beta-glucosidase (EC 3.2.1.21); xylan 1,4-beta-xylosidase (EC 3.2.1.37); beta-N [...]	2
CE3	acetyl xylan esterase (EC 3.1.1.72).	2
PF00165	Bacterial regulatory helix-turn-helix proteins, AraC family	2
PF00933	Glycosyl hydrolase family 3 N terminal domain	2
GH2	beta-galactosidase (EC 3.2.1.23) ; beta-mannosidase (EC 3.2.1.25); beta-glucuro [...]	2
PL9	pectate lyase (EC 4.2.2.2); exopolysaccharide lyase (EC 4.2.2.9); thilopeptid [...]	2
CBM22	A xylan binding function has been demonstrated in several cases and affinity wi [...]	1
PF08757	CotH protein	1
GH92	mannosyl-oligosaccharide alpha-1,2-mannosidase (EC 3.2.1.113); mannosyl-oligosa [...]	1

PF06205	Glycosyltransferase 36 associated family	1
PF06165	Glycosyltransferase family 36 (Deleted: now family GH94)	1
PF00150	Cellulase (glycosyl hydrolase family 5)	1
PF13377	Periplasmic binding protein-like domain	1
PF00480	ROK family	1
PF06204	Putative carbohydrate binding domain	1
PF00756	Putative esterase	1
PF02927	N-terminal Ig-like domain of cellulase	1
GH10	endo-1,4-beta-xylanase (EC 3.2.1.8); endo-1,3-beta-xylanase (EC 3.2.1.32)	1
PF12679	ABC-2 family transporter protein	1
PF00144	Beta-lactamase	1
PF00759	Glycosyl hydrolase family 9	1
PF07971	Glycosyl hydrolase family 92	1
PF00657	GDSL-like Lipase/Acylhydrolase	1
PF00331	Glycosyl hydrolase family 10	1
GH43	beta-xylosidase (EC 3.2.1.37); beta-1,3-xylosidase (EC 3.2.1.-); alpha-L-arabin [...]	1
PF13407	Periplasmic binding protein domain	1
CBM5	Modules of approx. 60 residues found in bacterial enzymes. Chitin-binding descr [...]	1
PF13472	GDSL-like Lipase/Acylhydrolase family	1
PF01522	Polysaccharide deacetylase	1
GT41	UDP-GlcNAc: peptide beta-N-acetylglucosaminyltransferase (EC 2.4.1.94)	1
GH9	endoglucanase (EC 3.2.1.4); cellobiohydrolase (EC 3.2.1.91); beta-glucosidase ([...])	1
PF03935	Beta-glucan synthesis-associated protein (SKN1)	1
PF13519	von Willebrand factor type A domain	1
CE4	acetyl xylan esterase (EC 3.1.1.72); chitin deacetylase (EC 3.5.1.41); chitool [...]	1
CBM44	The C-terminal CBM44 module of the Clostridium thermocellum enzyme has been dem [...]	1
CBM12	Modules of approx. 40-60 residues. The majority of these modules is found among [...]	1
PF12833	Helix-turn-helix domain	1
PF04616	Glycosyl hydrolases family 43	1
GH94	cellobiose phosphorylase (EC 2.4.1.20); cellodextrin phosphorylase (EC 2.4.1.4 [...])	1
PF01915	Glycosyl hydrolase family 3 C-terminal domain	1
GH26	beta-mannanase (EC 3.2.1.78); beta-1,3-xylanase (EC 3.2.1.32)	1
PF02839	Carbohydrate binding domain	1
GH59	galactocerebrosidase (EC 3.2.1.46)	1
PF00532	Periplasmic binding proteins and sugar binding domain of LacI family	1
PF02156	Glycosyl hydrolase family 26	1
CE7	acetyl xylan esterase (EC 3.1.1.72); cephalosporin-C deacetylase (EC 3.1.1.41).	1
PF00082	Subtilase family	1

M3 Consensus

Domain	# runs	Description
GH5	18	chitosanase (EC 3.2.1.132); beta-mannosidase (EC 3.2.1.25); Cellulase (EC 3.2.1.4); glucan 1,3-beta-glucosidase (EC 3.2.1.58); licheninase (EC 3.2.1.73); glucan endo-1,6-beta-glucosidase (EC 3.2.1.75); mannan endo-beta-1,4-mannosidase (EC 3.2.1.78); endo-beta-1,4-xylanase (EC 3.2.1.8); cellulose beta-1,4-celllobiosidase (EC 3.2.1.91); beta-1,3-mannanase (EC 3.2.1.-); xyloglucan-specific endo-beta-1,4-glucanase (EC 3.2.1.151); mannan transglycosylase (EC 2.4.1.-); endo-beta-1,6-galactanase (EC 3.2.1.164)
GH43	12	beta-xylosidase (EC 3.2.1.37); beta-1,3-xylosidase (EC 3.2.1.-); alpha-L-arabinofuranosidase (EC 3.2.1.55); arabinanase (EC 3.2.1.99); xylanase (EC 3.2.1.8); galactan 1,3-beta-galactosidase (EC 3.2.1.145)
PF04616	12	Glycosyl hydrolases family 43
PF03629	17	Domain of unknown function (DUF303)
PF01095	18	Pectinesterase
PL1	18	pectate lyase (EC 4.2.2.2); exo-pectate lyase (EC 4.2.2.9); pectin lyase (EC 4.2.2.10).
PF12708	18	Pectate lyase superfamily protein
GH28	18	polygalacturonase (EC 3.2.1.15); exo-polygalacturonase (EC 3.2.1.67); exo-polygalacturonosidase (EC 3.2.1.82); rhamnogalacturonase (EC 3.2.1.-); endo-xylogalacturonan hydrolase (EC 3.2.1.-); rhamnogalacturonan alpha-L-rhamnopyranohydrolase (EC 3.2.1.40)
PF00295	18	Glycosyl hydrolases family 28
CE6	12	acetyl xylan esterase (EC 3.1.1.72).
CE7	18	acetyl xylan esterase (EC 3.1.1.72); cephalosporin-C deacetylase (EC 3.1.1.41).
CE8	18	pectin methylesterase (EC 3.1.1.11).
CE12	18	pectin acetylesterase (EC 3.1.1.-); rhamnogalacturonan acetylesterase (EC 3.1.1.-); acetyl xylan esterase (EC 3.1.1.72)
PL9	13	pectate lyase (EC 4.2.2.2); exopolygalacturonate lyase (EC 4.2.2.9); thiopeptidoglycan lyase (EC 4.2.2.-).
GH106	16	alpha-L-rhamnosidase (EC 3.2.1.40)
GH88	14	d-4,5 unsaturated beta-glucuronyl hydrolase (EC 3.2.1.-)
PF07470	18	Glycosyl Hydrolase Family 88
GH105	18	unsaturated rhamnogalacturonyl hydrolase (EC 3.2.1.-)
PF00657	18	GDSL-like Lipase/Acylhydrolase
PF13229	18	Right handed beta helix region
GH95	17	alpha-1,2-L-fucosidase (EC 3.2.1.63); alpha-L-fucosidase (EC 3.2.1.51)
PF13472	15	GDSL-like Lipase/Acylhydrolase family
PF13524	13	Glycosyl transferases group 1

M3 Histogram

Domain	Description	# runs
PF01095	Pectinesterase	18
GH5	chitosanase (EC 3.2.1.132); beta-mannosidase (EC 3.2.1.25); Cellulase (EC 3.2.1 [...])	18
CE12	pectin acetyl esterase (EC 3.1.1.-); rhamnogalacturonan acetyl esterase (EC 3.1.1 [...])	18
GH28	polygalacturonase (EC 3.2.1.15); exo-polygalacturonase (EC 3.2.1.67); exo-polyg [...])	18
GH105	unsaturated rhamnogalacturonyl hydrolase (EC 3.2.1.-)	18
PF00657	GDSL-like Lipase/Acylhydrolase	18
PF00295	Glycosyl hydrolases family 28	18
PF07470	Glycosyl Hydrolase Family 88	18
PL1	pectate lyase (EC 4.2.2.2); exo-pectate lyase (EC 4.2.2.9); pectin lyase (EC 4. [...])	18
PF12708	Pectate lyase superfamily protein	18
PF13229	Right handed beta helix region	18
CE7	acetyl xylan esterase (EC 3.1.1.72); cephalosporin-C deacetylase (EC 3.1.1.41).	18
CE8	pectin methylesterase (EC 3.1.1.11).	18
GH95	alpha-1,2-L-fucosidase (EC 3.2.1.63); alpha-L-fucosidase (EC 3.2.1.51)	17
PF03629	Domain of unknown function (DUF303)	17
GH106	alpha-L-rhamnosidase (EC 3.2.1.40)	16
PF13472	GDSL-like Lipase/Acylhydrolase family	15
GH88	d-4,5 unsaturated beta-glucuronyl hydrolase (EC 3.2.1.-)	14
PF13524	Glycosyl transferases group 1	13
PL9	pectate lyase (EC 4.2.2.2); exopolygalacturonate lyase (EC 4.2.2.9); thiopeptid [...])	13
PF04616	Glycosyl hydrolases family 43	12
CE6	acetyl xylan esterase (EC 3.1.1.72).	12
GH43	beta-xylosidase (EC 3.2.1.37); beta-1,3-xylosidase (EC 3.2.1.-); alpha-L-arabin [...])	12
PL11	rhamnogalacturonan lyase (EC 4.2.2.-); exo-unsaturated rhamnogalacturonan lyase [...])	8
PF07944	Putative glycosyl hydrolase of unknown function (DUF1680)	8
GH115	xylan alpha-1,2-glucuronidase (3.2.1.131); alpha-(4-O-methyl)-glucuronidase (3. [...])	7
GH32	invertase (EC 3.2.1.26); endo-inulinase (EC 3.2.1.7); beta-2,6-fructan 6-levanb [...])	6
GH117	alpha-1,3-L-neoagarooligosaccharide hydrolase (EC 3.2.1.-); alpha-1,3-L-neoagar [...])	6
PF13632	Glycosyl transferase family group 2	6
PF07940	Heparinase II/III-like protein	5
GH78	alpha-L-rhamnosidase (EC 3.2.1.40)	5
PF05448	Acetyl xylan esterase (AXE1)	4
GH51	alpha-L-arabinofuranosidase (EC 3.2.1.55); endoglucanase (EC 3.2.1.4)	4
PF06964	Alpha-L-arabinofuranosidase C-terminus	3
PF05592	Bacterial alpha-L-rhamnosidase	3
PF00532	Periplasmic binding proteins and sugar binding domain of LacI family	3
PL12	heparin-sulfate lyase (EC 4.2.2.8)	2
PF00703	Glycosyl hydrolases family 2	2
CBM32	Binding to galactose and lactose has been demonstrated for the module of Microm [...])	2
PF07495	Y_Y_Y domain	2
GH97	alpha-glucosidase (EC 3.2.1.20); alpha-galactosidase (EC 3.2.1.22)	2
PF00756	Putative esterase	1
PF08666	SAF domain	1
PF02836	Glycosyl hydrolases family 2, TIM barrel domain	1
PF01263	Aldose 1-epimerase	1
GH55	exo-beta-1,3-glucanase (EC 3.2.1.58); endo-beta-1,3-glucanase (EC 3.2.1.39).	1
GH2	beta-galactosidase (EC 3.2.1.23) ; beta-mannosidase (EC 3.2.1.25); beta-glucuro [...])	1

PL17	alginate lyase (EC 4.2.2.3).	1
PF02837	Glycosyl hydrolases family 2, sugar binding domain	1
PF08531	Alpha-L-rhamnosidase N-terminal domain	1
PF13407	Periplasmic binding protein domain	1

M4 Consensus

Domain	# runs	Description
GH5	18	chitosanase (EC 3.2.1.132); beta-mannosidase (EC 3.2.1.25); Cellulase (EC 3.2.1.4); glucan 1,3-beta-glucosidase (EC 3.2.1.58); licheninase (EC 3.2.1.73); glucan endo-1,6-beta-glucosidase (EC 3.2.1.75); mannan endo-beta-1,4-mannosidase (EC 3.2.1.78); endo-beta-1,4-xylanase (EC 3.2.1.8); cellulose beta-1,4-cellulosidase (EC 3.2.1.91); beta-1,3-mannanase (EC 3.2.1.-); xyloglucan-specific endo-beta-1,4-glucanase (EC 3.2.1.151); mannan transglycosylase (EC 2.4.1.-); endo-beta-1,6-galactanase (EC 3.2.1.164)
PF00150	13	Cellulase (glycosyl hydrolase family 5)
GH43	16	beta-xylosidase (EC 3.2.1.37); beta-1,3-xylosidase (EC 3.2.1.-); alpha-L-arabinofuranosidase (EC 3.2.1.55); arabinanase (EC 3.2.1.99); xylanase (EC 3.2.1.8); galactan 1,3-beta-galactosidase (EC 3.2.1.145)
PF04616	15	Glycosyl hydrolases family 43
GH2	18	beta-galactosidase (EC 3.2.1.23) ; beta-mannosidase (EC 3.2.1.25); beta-glucuronidase (EC 3.2.1.31); mannosylglycoprotein endo-beta-mannosidase (EC 3.2.1.152); exo-beta-glucosaminidase (EC 3.2.1.165)
PF02836	18	Glycosyl hydrolases family 2, TIM barrel domain
PF00703	18	Glycosyl hydrolases family 2
PF02837	18	Glycosyl hydrolases family 2, sugar binding domain
GH3	18	beta-glucosidase (EC 3.2.1.21); xylan 1,4-beta-xylosidase (EC 3.2.1.37); beta-N-acetylhexosaminidase (EC 3.2.1.52); glucan 1,3-beta-glucosidase (EC 3.2.1.58); glucan 1,4-beta-glucosidase (EC 3.2.1.74); exo-1,3-1,4-glucanase (EC 3.2.1.-); alphalpha-L-arabinofuranosidase (EC 3.2.1.55).
PF01915	18	Glycosyl hydrolase family 3 C-terminal domain
PF00933	18	Glycosyl hydrolase family 3 N terminal domain
GH35	9	beta-galactosidase (EC 3.2.1.23); exo-beta-glucosaminidase (EC 3.2.1.165)
PF02449	10	Beta-galactosidase
GH42	10	beta-galactosidase (EC 3.2.1.23)
PF02065	17	Melibiase (GH27) [GH-D clan, a superfamily of alpha-galactosidases]
GH31	18	alpha-glucosidase (EC 3.2.1.20); alpha-1,3-glucosidase (EC 3.2.1.84); sucrase-isomaltase (EC 3.2.1.48) (EC 3.2.1.10); alpha-xylosidase (EC 3.2.1.-); alpha-glucan lyase (EC 4.2.2.13); isomaltosyltransferase (EC 2.4.1.-). [GH-D clan, a superfamily of alpha-galactosidases]
PF01055	18	Glycosyl hydrolases family 31
GH36	17	alpha-galactosidase (EC 3.2.1.22); alpha-N-acetylgalactosaminidase (EC 3.2.1.49); stachyose synthase (EC 2.4.1.67); raffinose synthase (EC 2.4.1.82) [GH-D clan, a superfamily of alpha-galactosidases]
PF14310	18	Fibronectin type III-like domain
PF07859	15	alpha/beta hydrolase fold
CE10	14	arylesterase (EC 3.1.1.-); carboxyl esterase (EC 3.1.1.3); acetylcholinesterase (EC 3.1.1.7); cholinesterase (EC 3.1.1.8); sterol esterase (EC 3.1.1.13); brefeldin A esterase (EC 3.1.1.-).
GH32	12	invertase (EC 3.2.1.26); endo-inulinase (EC 3.2.1.7); beta-2,6-fructan 6-levanbiohydrolase (EC 3.2.1.64); endo-levanase (EC 3.2.1.65); exo-inulinase (EC 3.2.1.80); fructan beta-(2,1)-fructosidase/1-exohydrolase (EC 3.2.1.153); fructan beta-(2,6)-fructosidase/6-exohydrolase (EC 3.2.1.154); sucrose:sucrose 1-fructosyltransferase (EC 2.4.1.99); fructan:fructan 1-fructosyltransferase (EC 2.4.1.100); sucrose:fructan 6-fructosyltransferase (EC 2.4.1.10); fructan:fructan 6G-fructosyltransferase (EC 2.4.1.243); levan fructosyltransferase (EC 2.4.1.-)
PF00135	10	Carboxylesterase family
PF13802	9	Galactose mutarotase-like
GH106	9	alpha-L-rhamnosidase (EC 3.2.1.40)

M4 Histogram

Domain	Description	# runs
PF01055	Glycosyl hydrolases family 31	18
GH5	chitosanase (EC 3.2.1.132); beta-mannosidase (EC 3.2.1.25); Cellulase (EC 3.2.1 [...])	18
GH31	alpha-glucosidase (EC 3.2.1.20); alpha-1,3-glucosidase (EC 3.2.1.84); sucrase-i [...]	18
PF02836	Glycosyl hydrolases family 2, TIM barrel domain	18
PF01915	Glycosyl hydrolase family 3 C-terminal domain	18
PF00933	Glycosyl hydrolase family 3 N terminal domain	18
PF00703	Glycosyl hydrolases family 2	18
GH2	beta-galactosidase (EC 3.2.1.23) ; beta-mannosidase (EC 3.2.1.25); beta-glucuro [...]	18
PF14310	Fibronectin type III-like domain	18
GH3	beta-glucosidase (EC 3.2.1.21); xylan 1,4-beta-xylosidase (EC 3.2.1.37); beta-N [...]	18
PF02837	Glycosyl hydrolases family 2, sugar binding domain	18
PF02065	Melibiase (GH27) [GH-D clan, a superfamily of alpha-galactosidases]	17
GH36	alpha-galactosidase (EC 3.2.1.22); alpha-N-acetylgalactosaminidase (EC 3.2.1.49 [...])	17
GH43	beta-xylosidase (EC 3.2.1.37); beta-1,3-xylosidase (EC 3.2.1.-); alpha-L-arabin [...]	16
PF04616	Glycosyl hydrolases family 43	15
PF07859	alpha/beta hydrolase fold	15
CE10	arylesterase (EC 3.1.1.-); carboxyl esterase (EC 3.1.1.3); acetylcholinesteras [...]	14
PF00150	Cellulase (glycosyl hydrolase family 5)	13
GH32	invertase (EC 3.2.1.26); endo-inulinase (EC 3.2.1.7); beta-2,6-fructan 6-levanb [...]	12
PF02449	Beta-galactosidase	10
GH42	beta-galactosidase (EC 3.2.1.23)	10
PF00135	Carboxylesterase family	10
PF13802	Galactose mutarotase-like	9
GH35	beta-galactosidase (EC 3.2.1.23); exo-beta-glucosaminidase (EC 3.2.1.165)	9
GH106	alpha-L-rhamnosidase (EC 3.2.1.40)	9
PF08532	Beta-galactosidase trimerisation domain	8
PF00165	Bacterial regulatory helix-turn-helix proteins, AraC family	7
GH51	alpha-L-arabinofuranosidase (EC 3.2.1.55); endoglucanase (EC 3.2.1.4)	7
GH78	alpha-L-rhamnosidase (EC 3.2.1.40)	7
GH27	alpha-galactosidase (EC 3.2.1.22); alpha-N-acetylgalactosaminidase (EC 3.2.1.49 [...])	7
PF02929	Beta galactosidase small chain	7
PF06964	Alpha-L-arabinofuranosidase C-terminus	6
PF12833	Helix-turn-helix domain	6
PF05592	Bacterial alpha-L-rhamnosidase	6
PF02311	AraC-like ligand binding domain	6
PF08533	Beta-galactosidase C-terminal domain	5
PF07944	Putative glycosyl hydrolase of unknown function (DUF1680)	5
PF08531	Alpha-L-rhamnosidase N-terminal domain	5
GH39	alpha-L-iduronidase (EC 3.2.1.76); beta-xylosidase (EC 3.2.1.37).	4
PF00532	Periplasmic binding proteins and sugar binding domain of LacI family	4
PF13407	Periplasmic binding protein domain	4
PF00596	Class II Aldolase and Adducin N-terminal domain	3
PF13377	Periplasmic binding protein-like domain	3
PF01301	Glycosyl hydrolases family 35	3
GH1	beta-glucosidase (EC 3.2.1.21); beta-galactosidase (EC 3.2.1.23); beta-mannosid [...]	3
PF00356	Bacterial regulatory proteins, lacI family	3
PF00480	ROK family	2

PF00756	Putative esterase	2
PF00251	Glycosyl hydrolases family 32 N-terminal domain	2
PF00232	Glycosyl hydrolase family 1	2
PF04397	LytTr DNA-binding domain	2
PF10509	Galactokinase galactose-binding signature	1
PF02397	Bacterial sugar transferase	1
PF01074	Glycosyl hydrolases family 38 N-terminal domain	1
GH117	alpha-1,3-L-neoagarooligosaccharide hydrolase (EC 3.2.1.-); alpha-1,3-L-neoagar [...]	1
PF09261	Alpha mannosidase, middle domain	1
PF01757	Acyltransferase family	1
PF13524	Glycosyl transferases group 1	1
PF01663	Type I phosphodiesterase / nucleotide pyrophosphatase	1
PF01263	Aldose 1-epimerase	1
PF02614	Glucuronate isomerase	1
PF07748	Glycosyl hydrolases family 38 C-terminal domain	1
GH38	alpha-mannosidase (EC 3.2.1.24) ; mannosyl-oligosaccharide alpha-1,3-1,6-mannos [...]	1
PF06580	Histidine kinase	1
PF13472	GDSL-like Lipase/Acylhydrolase family	1

M5 Consensus

Domain	# runs	Description
PF00942	16	Cellulose binding domain
GH124	16	endoglucanase (EC 3.2.1.4)
CBM3	16	Modules of approx. 150 residues found in bacterial enzymes. The cellulose-binding function has been demonstrated in many cases. In one instance binding to chitin has been reported.
dockerin		
PF00404	16	Dockerin type I repeat
cohesin		
PF00963	16	Cohesin domain
PF07591	16	Pretoxin HINT domain
PF13186	16	Domain of unknown function (DUF4008)
CBM36	15	Modules of approx. 120-130 residues displaying structural similarities to CBM6 modules. The only CBM36 currently characterised, that from Paenbacillus polymyxa xylanase 43A, shows calcium-dependent binding of xylans and xylooligosaccharides. X-ray crystallography shows that there is a direct interaction between calcium and ligand.
PF05593	12	RHS Repeat
PF07238	10	PilZ domain
PF13403	9	Hint domain

M5 Histogram

Domain	Description	# runs
PF00942	Cellulose binding domain	16
GH124	endoglucanase (EC 3.2.1.4)	16
PF00404	Dockerin type I repeat	16
CBM3	Modules of approx. 150 residues found in bacterial enzymes. The cellulose-bindi [...]	16
dockerin		16
cohesin		16
PF07591	Pretoxin HINT domain	16
PF13186	Domain of unknown function (DUF4008)	16
PF00963	Cohesin domain	16
CBM36	Modules of approx. 120-130 residues displaying structural similarities to CBM6 [...]	15
PF05593	RHS Repeat	12
PF07238	PilZ domain	10
PF13403	Hint domain	9
PF00759	Glycosyl hydrolase family 9	7
GH9	endoglucanase (EC 3.2.1.4); cellobiohydrolase (EC 3.2.1.91); beta-glucosidase ([...]	7
PF01584	CheW-like domain	5
PF12791	Anti-sigma factor N-terminus	5
CBM35	Modules of approx. 130 residues. A module that is conserved in three Cellvibrio [...]	5
PF12833	Helix-turn-helix domain	4
PF03422	Carbohydrate binding module (family 6)	2
PF12730	ABC-2 family transporter protein	2
PF00150	Cellulase (glycosyl hydrolase family 5)	2
GH5	chitosanase (EC 3.2.1.132); beta-mannosidase (EC 3.2.1.25); Cellulase (EC 3.2.1 [...]	2
PF00239	Resolvase, N terminal domain	2
PF02018	Carbohydrate binding domain (CBM_4_9)	2
PF13231	Dolichyl-phosphate-mannose-protein mannosyltransferase	2
CBM6	Modules of approx. 120 residues. The cellulose-binding function has been demons [...]	1
PF07508	Recombinase	1
PF01797	Transposase IS200 like	1

PUL module consensus

Domain	# runs	Description
PF07980	17	SusD family
PF00593	17	TonB dependent receptor
PF07715	17	TonB-dependent Receptor Plug Domain
PF14322	17	Starch-binding associating with outer membrane
PF13715	17	Cna protein B-type domain
PF13620	16	Carboxypeptidase regulatory-like domain
PF13568	13	Outer membrane protein beta-barrel domain
PF00691	13	OmpA family
PF13505	12	Outer membrane protein beta-barrel domain
PF02321	11	Outer membrane efflux protein

PUL module histogram

Domain	Description	# runs
PF07980	SusD family	17
PF00593	TonB dependent receptor	17
PF07715	TonB-dependent Receptor Plug Domain	17
PF14322	Starch-binding associating with outer membrane	17
PF13715	Cna protein B-type domain	17
PF13620	Carboxypeptidase regulatory-like domain	16
PF13568	Outer membrane protein beta-barrel domain	13
PF00691	OmpA family	13
PF13505	Outer membrane protein beta-barrel domain	12
PF02321	Outer membrane efflux protein	11
PF12833	Helix-turn-helix domain	7
PF01551	Peptidase family M23	5
PF00165	Bacterial regulatory helix-turn-helix proteins, AraC family	5
PF03544	Gram-negative bacterial tonB protein	4
GT41	UDP-GlcNAc: peptide beta-N-acetylglucosaminyltransferase (EC 2.4.1.94)	4
PF13437	HlyD family secretion protein	4
PF12700	HlyD family secretion protein	4
CE10	arylesterase (EC 3.1.1.-); carboxyl esterase (EC 3.1.1.3); acetylcholinesteras [...]	3
PF13533	Biotin-lipoil like	2
PF00529	HlyD family secretion protein	1
PF14289	Domain of unknown function (DUF4369)	1
PF13187	4Fe-4S dicluster domain	1
PF00873	AcrB/AcrD/AcrF family	1
PF12771	Starch-binding associating with outer membrane	1
PF03572	Peptidase family S41	1
PF00196	Bacterial regulatory proteins, luxR family	1
PF12741	Susd and RagB outer membrane lipoprotein	1
PF00082	Subtilase family	1